

B1  
4.(Amended) Anhydrous lactitol crystals according to claim 1, characterized in having a low lactulitol content.

---

B2  
10. (Amended) A process for preparing anhydrous lactitol crystals belonging to the orthorhombic  $P2_12_12_1$  crystal system and having unit cell constants about  $a = 9.6 \text{ \AA}$ ,  $b = 11.1 \text{ \AA}$ ,  $c = 14.0 \text{ \AA}$ , by crystallizing from an aqueous solution which contains not less than 70%, of lactitol on dry matter, characterized by bringing said aqueous lactitol solution to supersaturation in regard to lactitol, and subjecting the solution to crystallization conditions at a temperature between 70 and 150°C by boiling and/or cooling crystallization, allowing said solution to crystallize until a substantial first crystal yield is obtained, and conditioning said first crystal yield at a temperature of 70-100°C for a sufficient time to allow said first crystal yield to convert into a second crystal yield comprising said orthorhombic anhydrous lactitol crystals, recovering said orthorhombic anhydrous lactitol crystals from the mother liquor, and optionally washing and drying said crystals.

---

B3  
14. (Amended) A process for preparing anhydrous lactitol crystals belonging to the orthorhombic  $P2_12_12_1$  crystal system and having unit cell constants about  $a = 9.6 \text{ \AA}$ ,  $b = 11.1 \text{ \AA}$ ,  $c = 14.0 \text{ \AA}$ , by crystallizing from an aqueous solution to which contains not less than 70%, of lactitol on dry matter, characterized by bringing said aqueous lactitol solution to supersaturation in regard to lactitol, and subjecting the solution to crystallization conditions at a temperature between 70 and 150°C by boiling and/or cooling crystallization, seeding said supersaturated solution with seed crystals of orthorhombic anhydrous lactitol and separating the resulting orthorhombic anhydrous lactitol crystals from the mother liquor, and optionally washing and drying, said product being anhydrous lactitol crystals belonging to the

orthorhombic  $P2_12_12_1$  crystal system and having unit cell constants about  $a = 9.6 \text{ \AA}$ ,  $b = 11.1 \text{ \AA}$ ,  $c = 14.0 \text{ \AA}$ .

15.(Amended) A process according to claim 14, comprising

- B3
- (a) evaporating an aqueous solution of lactitol to a concentration of 80-95% by weight and to make a supersaturated solution;
  - (b) seeding the supersaturated solution at a temperature within the range 120-80°C ;
  - (c) optionally evaporating further while adding lactitol solution within said temperature range to increase the crystal content;
  - (d) cooling the resulting mixture;
  - (e) separating the orthorhombic anhydrous lactitol crystals from the mother liquor; and
  - (f) washing and drying said crystals.
- 

B4

17. (Amended) A process for preparing anhydrous lactitol crystals belonging to the orthorhombic  $P2_12_12_1$  crystal system and having unit cell constants about  $a = 9.6 \text{ \AA}$ ,  $b = 11.1 \text{ \AA}$ ,  $c = 14.0 \text{ \AA}$ , by crystallizing from an aqueous solution which contains not less than 70%, of lactitol on dry matter, characterized by bringing said aqueous lactitol solution to supersaturation in regard to lactitol, and subjecting said solution to slow crystallization conditions at a temperature between 150 and 70°C by slow boiling and/or cooling crystallization, recovering said orthorhombic anhydrous lactitol crystals from the mother liquor, and optionally washing and drying said crystals.

---

**Please add Claims 26-40 as follows:**

--26. (New) An improved composition of matter containing a sugar substitute therein, said composition of matter selected from the group consisting of a foodstuff a pharmaceutical and an hygienic product, the improvement comprising the sugar substitute comprising anhydrous  $\beta$ -lactitol.

27. (New) The improved composition according to Claim 26 where the composition of matter is selected from the group consisting sweets, jams, bakery products, chocolate, juices, cream fillings, ice cream and toothpaste.

28. (New) The improved composition of matter according to Claim 26 wherein an additional sweetener is present.

29. (New) The improved composition of matter according to Claim 28 wherein the additional sweetener is saccharine, xylitol, lactitol monohydrate or anhydrous lactitol  $\alpha$ .

B5 30. (New) A sweetener substitute comprising the lactitol of any one of claims 1, 6, 10, 14 or 17.

31. (New) The sweetener substitute according to Claim 30 wherein an additional sweetener is present.

32. (New) The sweetener substitute according to Claim 31 wherein the additional sweetener is saccharine, xylitol, lactitol monohydrate or anhydrous lactitol  $\alpha$ .

33. (New)  $\beta$ -lactitol.

34 (New) Anhydrous  $\beta$ -lactitol.

35. (New) The anhydrous lactitol crystals according to claim 3 having a melting point of 151-152°C.